# A bout of strength training affects sport-specific maximal power but not 2000m rowing ergometer performance

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Rowers regularly undertake rowing training within 24 h of performing bouts of strength training; however, the effect of this practice has not been investigated. This study evaluated the impact of a bout of high-intensity strength training on 2,000 m rowing ergometer performance and rowing-specific maximal power. Eight highly trained male club rowers performed baseline measures of five separate, static squat jumps (SSJ) and countermovement jumps (CMJ), maximal rowing ergometer power strokes (PS) and a single 2,000 m rowing ergometer test (2,000 m). Subsequently, participants performed a high intensity strength training session consisting of various multi-joint barbell exercises. The 2,000 m test was repeated at 24 and 48 h post-ST, in addition SSJ, CMJ and PS tests were performed at these time points and also at 2 h post-ST. Muscle soreness, serum creatine kinase (CK) and lactate dehydrogenase (LDH) were assessed pre-ST and 2, 24 and 48 h post-ST. Following the ST, there were significant elevations in muscle soreness (2 and 24 h, $P < 0.01$), CK (2, 24 and 48 h, $P < 0.01$), and LDH (2 h, $P < 0.05$) in comparison to baseline values. There were significant decrements across all time points for SSJ, CMJ and PS, which ranged between 3 and 10% ($P < 0.05$). However, 2,000 m performance and related measurements of heart rate and blood lactate were not significantly affected by ST. In summary, a bout of high-intensity strength training resulted in symptoms of muscle damage and decrements in rowing-specific maximal power, but this did not affect 2,000 m rowing ergometer performance in highly trained rowers.